Drypower

Rack-Mounted Series

LiFePO4 Battery System

User Manual

V1.1

Revision Table

No	Version	Revised by	Content	Revision Date
1	Rev1.0		First release	2026.1.12
2	Rev1.1	GC	Approved	2026.03.30
3				
4				
5				
6				

Content

Definition of Terms

The following acronyms and abbreviations are used in this manual.

BMS	Battery Management System
SOC	State of Charge
SOH	State of Health
DOD	Depth of Discharge
Battery Module	Multiple Cells Connected Together
Cabinet	A Carrier that Carries Multiple Battery Modules
PPE	Personal Protective Equipment

1 Overview

1.1 Scope of Application

This document provides comprehensive information on Rack-mounted battery products, including their specifications, operational specifications, maintenance procedures, and other relevant details. The Rack-mounted battery products are widely used in small and medium-size energy storage fields.

1.2 Target Audience

This manual is intended for professionals and technical personnel who install, operate, and maintain the batteries, as well as for end-users who may need to view relevant technical parameters.

1.3 User Manual

Please read the user manual carefully before use to ensure a comprehensive understanding of the product. After reading, please store this manual in a secure location for future reference.

1.4 Disclaimers

Failure to operate this product correctly may result in severe injury to oneself or others, as well as damage to the product or surrounding property. By using this product, you are deemed to have fully understood, acknowledged and accepted all the terms and contents in this document. Users assume responsibility for their actions and any resulting consequences. The company shall not be held liable for damages caused by the user's failure to comply with the provisions stated in this document or the user manual.

The content of this manual will be periodically updated and revised without prior notice. It is recommended to obtain the latest product manual.

2 Safety Instructions

2.1 Label Description

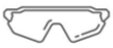
To ensure the user's personal safety when using this product, this manual provides relevant identification information and uses appropriate symbols to alert the user. It is recommended that the user carefully reads the following list of symbols used in this manual.

Table 2-1 Label Description

	Potentially Low Risk: May Result in Mild or Moderate Impairment if Not Avoided
	High Risk: May Result in Serious Injury or Death if Not Avoided
	The Battery Terminals Must be Disconnected Before Commencing Work on the Battery
	The Battery Could Explode and/or be Severely Damaged if Dropped or Crushed
	The Battery May Explode if Exposed to Open Flames or Other Extreme Sources of Heat
	Grounding: The System Must be Firmly Grounded for the Operator's Safety
	This Side Should be Facing Up
	Handle with Care to Avoid Damage
	Keep Dry
	Keep the Battery Out of Reach of Children
	**DO NOT** Short Circuit
	**DO NOT** Reverse Connection of the Positive and Negative Terminals

2.2 Installation Tools

Table 2-2 Installation Tool Sheet

PPE	Protective Gloves 	Safety Work Boots 	Protective Clothing 
	Safety Glasses 	ESD Wrist Strap 	
Installation Tools	Electric Screwdriver 	Cross Screwdriver 	Socket Spanner 
	Slotted Screwdriver 	Wire Stripper 	Multimeter 

2.3 Attention Items

2.3.1 Manual Custody

This manual contains important information about the Rack-Mounted Lithium Batteries. A careful reading of this manual will help you become familiar with this product. Please keep this manual in a safe place accessible to maintenance personnel whenever needed.

2.3.2 Product Identity Protection

Warning labels, back panels and front doors of cabinet contain important safety information and are strictly forbidden to be torn and damaged.

2.3.3 Operator Requirements

Only trained and qualified professionals should perform various operations on the product. The operator should be fully familiar with the product's system components, operating principles, and the user manual.

2.3.4 Safety Warning

⚠ During installation, daily maintenance, overhaul, and other operations, the following guidelines should be observed to prevent accidental operation and to prevent unauthorized personnel from approaching the battery modules, system & equipment and causing accidents. The front and rear switches of the products should be clearly marked to prevent accidents caused by incorrect switching. Warning signs or safety warning belts should be placed around the operation area to prevent the proximity of unauthorized personnel.

2.3.5 Electric Measurement

⚠ Due to the high voltage of the battery, which may endanger personal safety, accidental contact can cause serious injury. During measurement operations, please ensure adequate insulation protection and wear appropriate PPE, such as insulating gloves, safety glasses and protective clothing.

2.3.6 Measuring Instrument

⚠ To ensure that the electrical installation complies with requirements, please use the relevant electrical measuring instruments, such as multi-meter and power meters.

2.3.7 Maintenance

⚠ During maintenance and repair operations, ensure that the energy storage battery cabinet is not accidentally charged. Use a multi-meter to ensure that there is no electricity present in the energy storage battery cabinet. Utilize insulating materials to insulate live electrical parts of the system. Ensure that the system has necessary grounding connections in place.

2.3.8 Chemical Information

 The battery contains hazardous substances such as polyvinylidene fluoride, graphite, copper (Cu), and lithium iron phosphate with carbon coating.

Personal Precautions, Protective Equipment, and Emergency Procedures:

In case of Rupture:

- Attention! Corrosive material. Avoid contact with skin, eyes, and clothing.
- Ensure adequate ventilation.
- Use personal protective equipment as required.
- Evacuate personnel to safe areas.
- Keep people away from and upwind of spill/leak.

Environmental Precautions:

Prevent product from contaminating soil and from entering sewers or waterways.

Methods and materials for Containment:

Stop the leak if safe to do so.

Contain the spilled liquid with dry sand or earth.

Clean up the spills immediately.

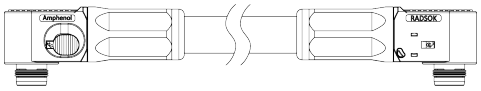
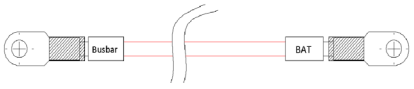
Waste Treatment：

Recycle or dispose of in accordance with government, state & local regulations.

3 Main Components

The core components of the battery module are shown in Table 3-1 below:

Table 3-1 Main components sheet

No	Item	Picture
1	DP-51100-R	
2	DP-24200-R	
3	DP-12400-R	
4	Amphenol Surlok cable (included with DP-5110-R)	
5	Red Power Cable Black Power Cable (included with DP-12400-R, DP-24200-R)	
6	Communication Cable	

4 Product Description

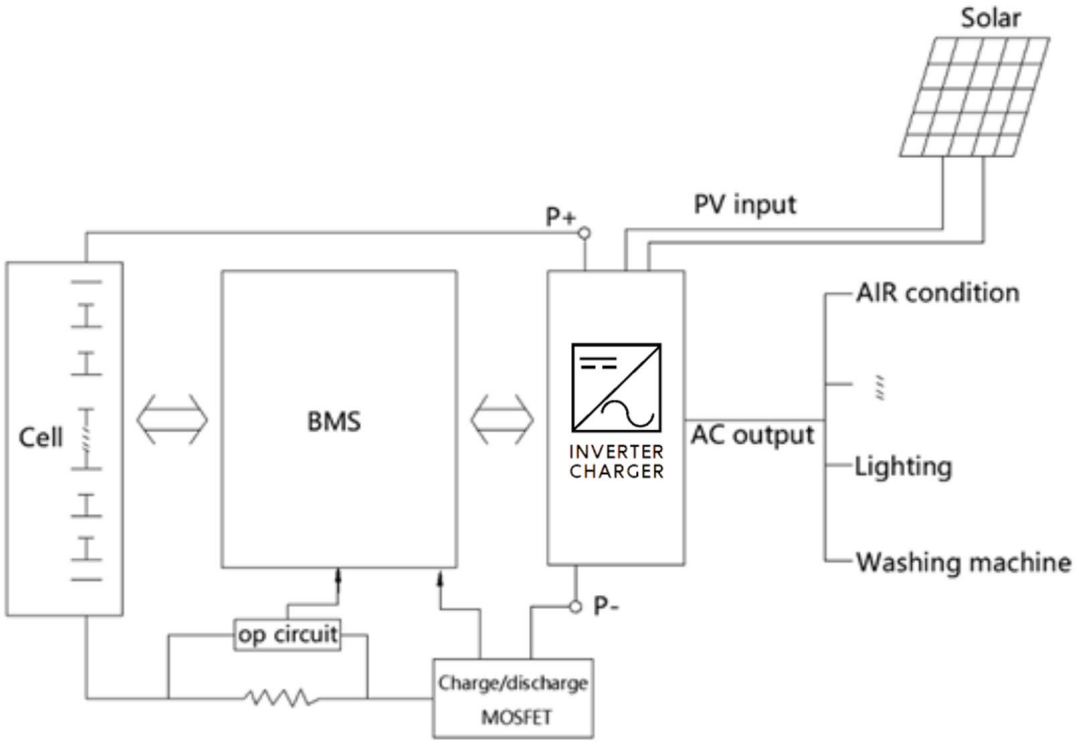
4.1 Product Introduction

Rack-Mounted Energy Storage Products are modular products for energy storage applications and are widely used in small and medium-sized energy storage systems. Each module consists of cells, a BMS and an enclosure. The BMS in each module is equipped with independent voltage, current, temperature detection and protection functions. The optimal configuration of the entire energy storage system can be achieved by adjusting the number of parallel modules.

The battery module consists of LiFePO4 cells, BMS, housing and wire, where each module owns complete protection function. The module can be placed in a standard 19-inch cabinet and establish communication with outside devices through CAN/RS485; the modules interact with each other through RS485. The modules can be connected in parallel to meet the expansion needs, with support for up to 16 modules in the 12V & 24V range, and 64 modules in the 48V range.

4.2 Connection Diagram

Figure 4-1 Working Principal Diagram of Battery System



5 Module Description

5.1 Module Specification

The rack-mounted battery features lithium iron phosphate ($LiFePO_4$) technology with the highest safety performance. Each battery module has a built-in, full-featured, and high-precision battery management system (BMS). The BMS enables real-time monitoring of voltage, current and temperature, and has a passive balancing function, effectively enhancing battery performance.

Table 5-1 Rack-Mount Battery Module Specification

Type	Voltage	Capacity	Energy	Width	Depth	Height	Weight
DP-51100-R	51.2V	100Ah	5120Wh	442mm	470mm	154mm	45kg
DP-24200-R	25.6V	200Ah	5120Wh	442mm	500mm	154mm	46kg
DP-12400-R	12.8V	400Ah	5120Wh	442mm	500mm	154mm	46kg

5.2 Module Illustration and Front Panel Description

5.2.1 Appearance & Dimension Schematic Diagram

Figure 5-1 DP-51100-R Appearance & Dimension Drawing

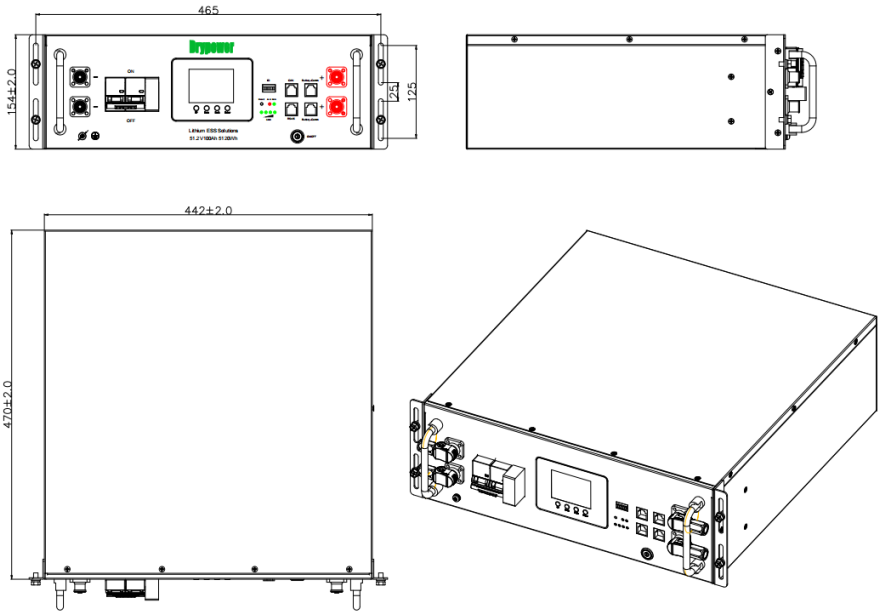


Figure 5-2 DP-24200-R Appearance & Dimension Drawing

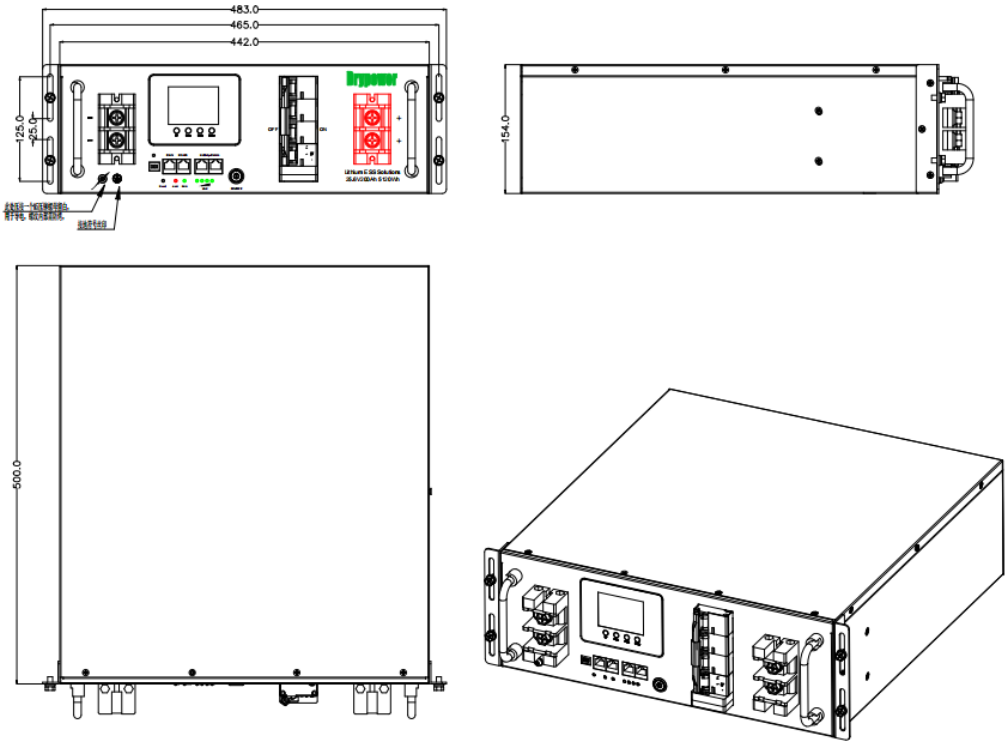
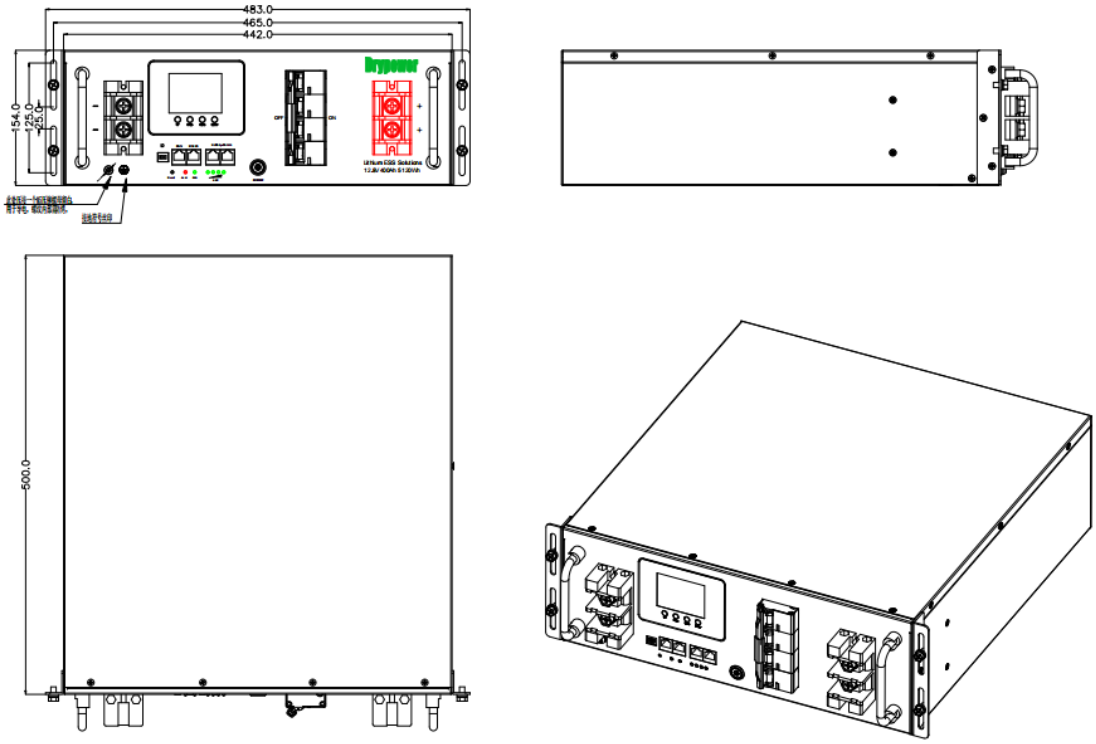


Figure 5-3 DP-12400-R Appearance & Dimension Drawing



5.2.2 Front Panel Diagram

Figure 5-5 DP-51100-R Front Panel Diagram

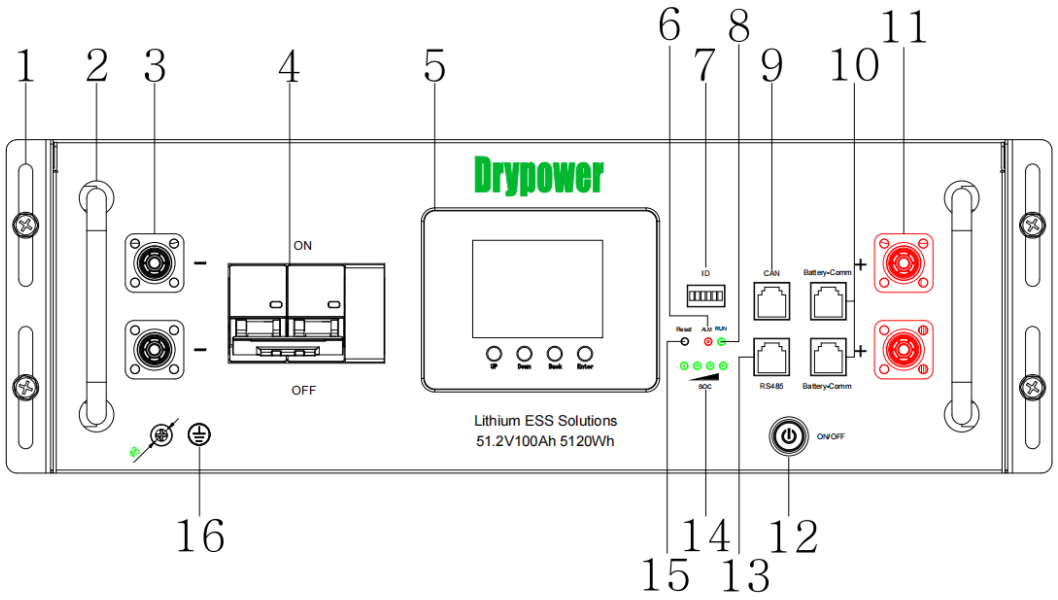
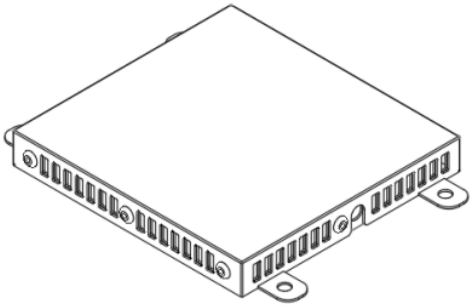


Table 5-2 Front Panel Interface Description

No.	Item	Function Description	Remarks
1	Hanger	Fixed Hanger	
2	Handle	For Carrying, Handling	
3	Negative	Battery Negative Terminals	
4	Breaker	Power Output Switch	
5	LCD Display	Display Battery Information	
6	ALM	Alarming LED Indication	ALM
7	ID	Assign Address of Every Model	ID
8	RUN	Operating LED Indication	Always On When System is Running
9	CAN	CAN Communication Interface	CAN
10	Battery-Comm	Battery Inter-Comm When Connect in Parallel	Battery-Comm
11	Positive	Battery Positive Terminals	
12	ON/OF	Button Switch On/Off the BMS	
13	RS485	RS485 Communication Interface	Connected to Inverter
14	SOC	State of Charge	
15	Reset	Emergency Restart Button	
16	Grounding	Preventing Electric Shock	

5.3 Aerosol Fire Extinguishing Device

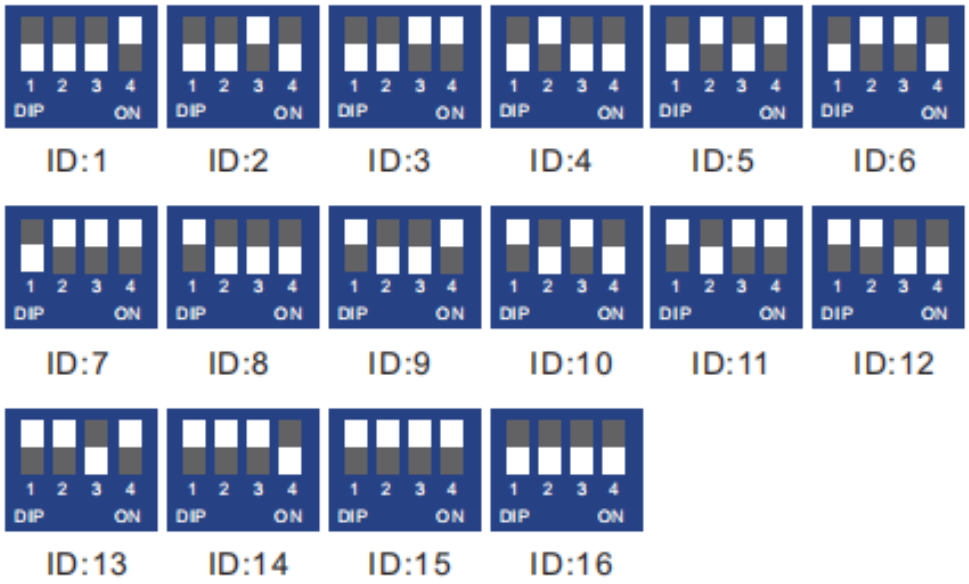
Figure 5-6 Front Panel Diagram



Each battery is equipped with 2 pcs of aerosol fire extinguishers, which can instantly extinguish the fire source in case of a fire, ensuring both personal safety and property protection.

5.4 ID Setting Description

Figure 5-7 4ID Dialing Code Address Assignment Instructions – DP-12400-R & DP-24200-R



Notes：

1. The ID code bits correspond to binary digits, with down for "OFF" and up for "ON".

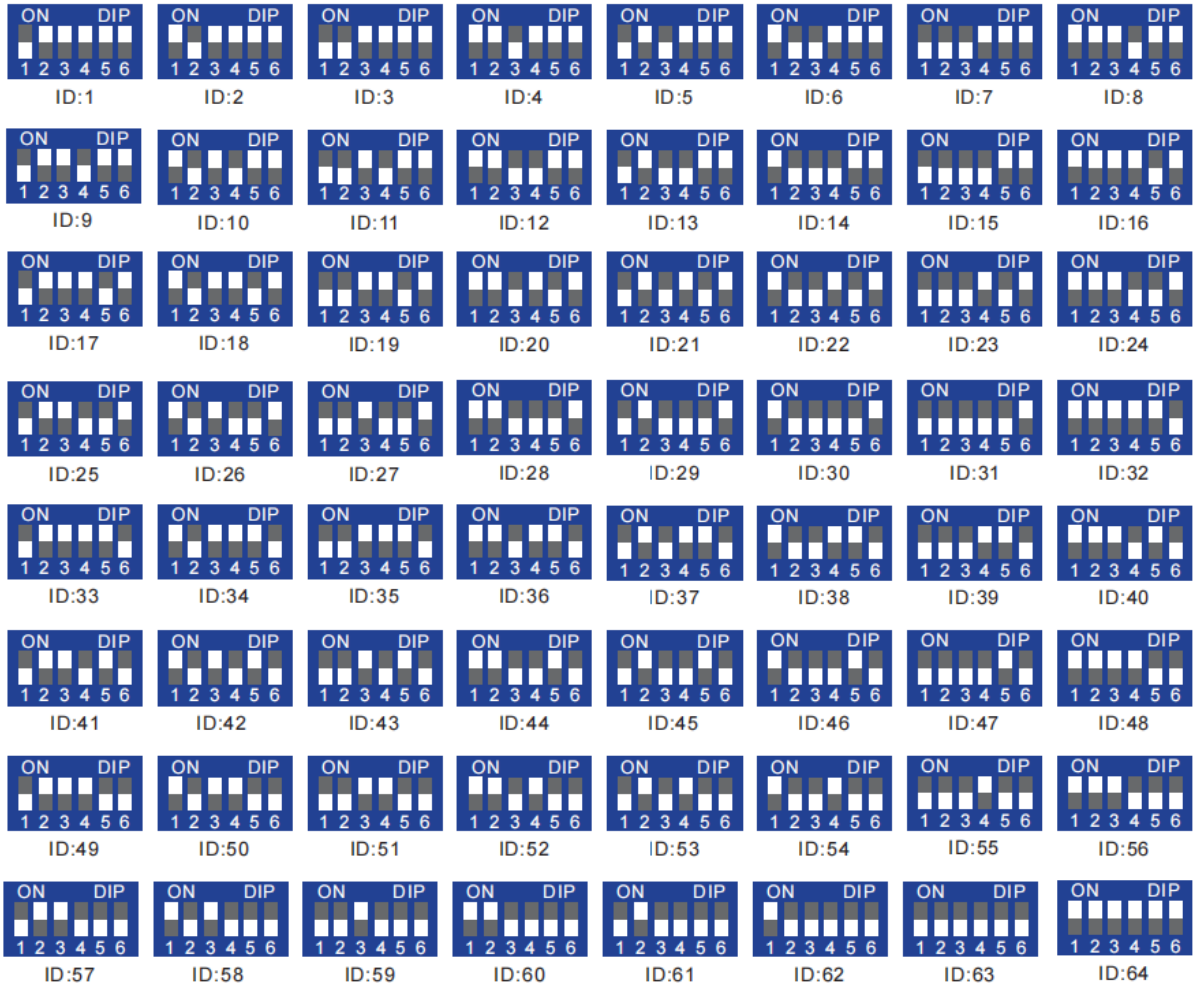
2. The rightmost bit is the LSB (Least Significant Bit).

3. The code ranges from 1 to16, and in communication mode, it can support up to 16 modules in parallel.

4. All bits down (or OFF) corresponds to ID 16.

5. After setting the dial code, reset (power-cycle) the battery to apply the new ID for standalone or parallel operation.

Figure 5-8 6ID Dialing Code Address Assignment Instructions – DP-51100-R



Notes：

1. The ID code bits correspond to binary digits, with down for "ON" and up for "OFF".

2. The leftmost bit is the LSB (Least Significant Bit).

3. The code ranges from 1 to 64, and in communication mode, it can support up to 64 modules in parallel.

4. All bits up (or OFF) corresponds to ID 64.

5. After setting the dial code, reset (power-cycle) the battery to apply the new ID for standalone or parallel operation.

5.5 LED Indicator status and definition

Table 5-3 LED Indicator Status and Definition

Status	Normal/Alarm/Protection	RUN	ALM	SOC Indicate LED	Notes
		●	●	SOC1~SOC4●	
Shutdown / Sleep		OFF	OFF	OFF	
Stand by	Normal	ON	OFF	Based on battery indicator（Each LED indicators 25%SOC）	
	Alarm	ON	Flash		According to the state before standby
Charge	Normal	Long Flash	OFF		
	Alarm	Long Flash	Short flash		
	End-off Voltage	OFF	ON		
	Over-Temp Protection	OFF	Short flash		
	Over-current transfer limit -current	Short flash	Short flash/OFF		Over-current flash, limit-current OFF
Discharge	Normal	Short Flash	OFF	Based on battery indicator	
	Alarm	Short Flash	Long Flash		
	End-off Voltage	OFF	OFF		Go to sleep
	Over-Temp/Over-current Protection	OFF	ON		
BMS Fault		OFF	Flash	All OFF	

Notes:

Shutdown: All LED indicators are off.

Power On: The RUN LED is continuously on.

System Failure or Protected: The ALM LED is continuously on.

SOC Indicators: Each SOC LED represents 25% battery capacity.

Long Flash: LED flashes once every 2.4 seconds.

Short Flash: LED flashes once every 1.2 seconds.

5.6 Communication Interface Diagram and Description

Figure 5-9 Communication Interface Diagram

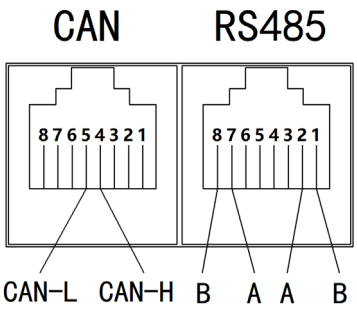


Table 5-4 Communication Interface Definition

RS485 – Interface		CAN - Interface	
Pin No.	Definition	Pin No.	Definition
Pin-1, Pin-8	RS485 B-(T/R-)	PIN-4	CAN_H
Pin-2, Pin-7	RS485 A+(T/R+)	PIN-5	CAN_L
Others	NC	Others	NC

6 Module Auxiliary Accessories

6.1 Power Cable

The power cable is used to connect the battery modules of the cabinet to carry the operating current so that multiple battery modules can form a complete power system.

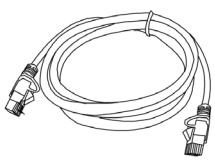
Table 6-1 Power Cable Specification

Picture	Item	Specification
	Cross-sectional area	4AWG
	Safety Current	100A
	Cross-sectional area	4AWG
	Safety Current	100A
	Cross-sectional area	1/0AWG
	Safety Current	200A
	Cross-sectional area	1/0AWG
	Safety Current	200A

6.2 Communication Cable

The communication line is suitable for the information interaction between modules when the modules are used in parallel.

Table 6-2 Communication cable Specification

Picture	Item	Specification
	UL Rating	UL1007
	Parameter	CAT6

7 System Installation

7.1 Handling, Transportation, Storage

7.1.1 Handling

Improper handling practices may cause short circuits or damage to the battery pack, resulting in battery leakage or fire. Use forklifts or carts for handling. Ensure that the dimensions of materials **DO NOT** exceed the width and height of aisles and doors, and maintain a moderate speed. Avoid situations where battery packs are inverted or stacked on top of each other during unloading.

7.1.2 Transportation

To ensure safety, it is recommended to use a forklift or have multiple individuals handle the battery module due to its heavy weight. Avoid dropping, throwing, and exposing the equipment to collisions or strong vibrations during transportation.

Figure 7-1 Handling Tool diagram

7.1.3 Storage

Short-term Storage (within 3 months): If the battery is not used for a short period of time, the battery can be fully charged and stored in a dry, cool environment with non-corrosive gas. The recommended temperature range is 10~45°C, with a relative humidity of 60±30%. Store the battery away from strong electromagnetic fields and direct sunlight.

Long-term Storage (over 3 months): If the battery is not used for more than 3 months, keep the battery SOC at 50%~70%. Store it in a dry, cool environment with non-corrosive gas. The recommended temperature range is 20~35°C, with a relative humidity of 50±15%. Store the battery away from strong electromagnetic fields and direct sunlight. Charge the battery once every 6 months to avoid irreversible capacity loss caused by long-term storage.

7.2 BOM List

The rack-mount lithium battery system supports up to 64 modules in parallel. Taking the 51.2V100Ah module system as an example, its BOM list is shown in the following table:

Table 7-2 51.2V100Ah Packing list

No.	Item	Quantity	Description	Remarks
1	Battery Module	1		
2	Power Cable	2	4AWG，Red：1pcs 180mm 4 AWG，Black：1pcs 180mm	Connectors: Amphenol Radsok SLPHPA25BSx1 (x:B/R)
3	Communication Cable	1	International class 6 network cable, 210mm	
4	User manual	1		
5	Terminal	2	SC25-8	For busbar connection.
6	GND	1	Ground lead 6AWG: 1pcs 1000mm	

Table 7-3 25.6V200Ah/ 12.8V400Ah Packing list

No.	Item	Quantity	Description	Remarks
1	Battery Module	1		
2	Power Cable	2	1/0 AWG，Red：1pcs 250mm 1/0 AWG，Black：1pcs 250mm	Connectors: SC50-8 terminals
3	Communication Cable	1	International class 6 network cable, 300mm	
4	User manual	1		
5	GND	1	Ground lead 6AWG: 1pcs 1000mm	

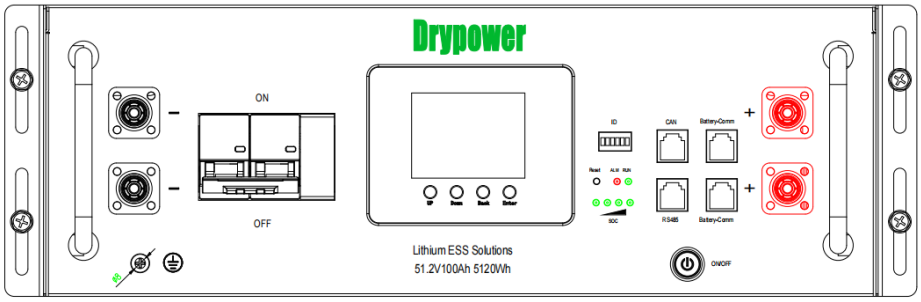
7.3 Mechanical Installation

The installation position of the battery directly impacts its safety, service life, and performance. Choose a position that ensures convenient wiring, simple operation and maintenance, and strictly avoid installing the battery cabinet in high temperature or high humidity environments. Use only indoors and keep well ventilated. **DO NOT** expose to sunlight, to ensure the firmness of installation floor.

7.3.1 Module Installation

According to the actual conditions of the installation site, the module can be carried manually or with machinery. It is recommended that at least two people lift the module together and that they wear anti-smashing shoes and non-slip gloves to follow PPE during installation. For an example, a 51.2V100Ah module has its right side positive, left side negative, and the communication port located on the right side, as shown in Figure 7-2:

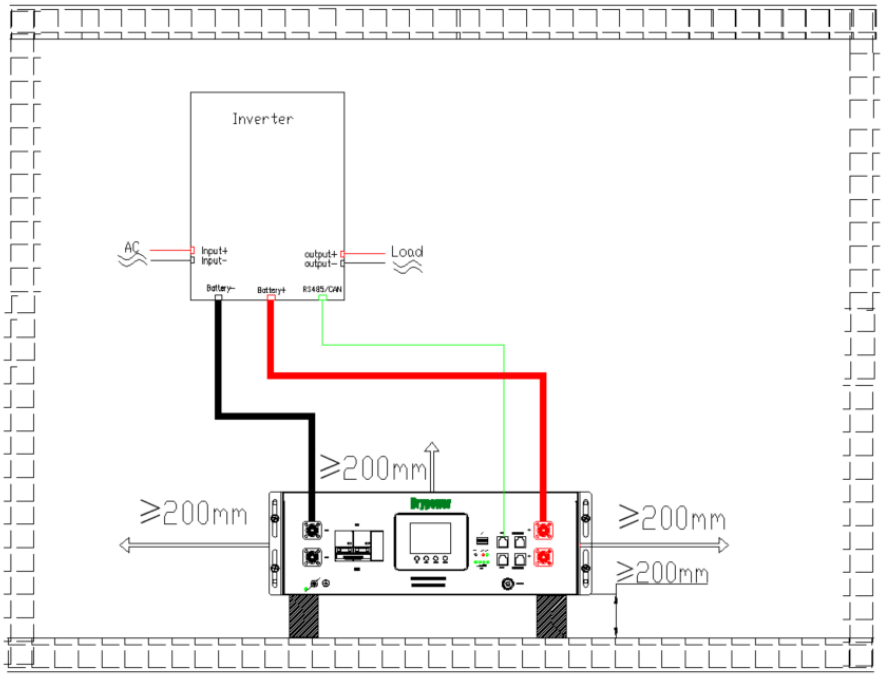
Figure 7-2 Panel Diagram



When installing the module, follow the bottom-up, one-by-one installation method. Insert the battery modules into the rack tray, and then fix them with 4*M6*16 bolts one by one.

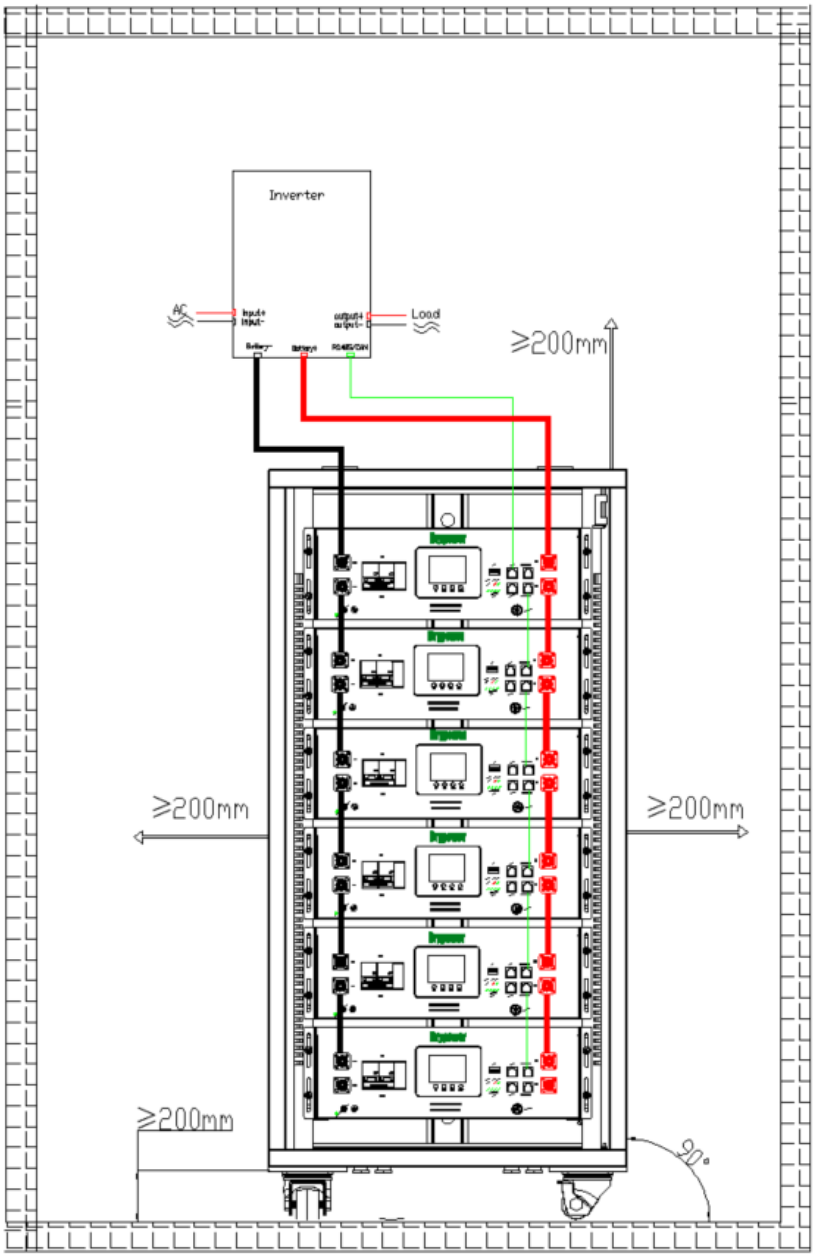
7.3.2 Single Module Installation

Figure 7-3 Installation Diagram



7.3.3 Multimodule Installation

Figure 7-4 Installation Diagram



The rack-mounted battery features a fan-less design, which effectively reduces noise during operation. To ensure optimal heat dissipation, it is recommended to maintain the following clearances: cabinet-to-wall ≥ 200 mm, top margin ≥ 200 mm, and cabinet base to floor ≥ 200 mm, as shown in Figures 7-3 and 7-4.

7.4 Electrical Installation

7.4.1 Tools for Electrical Installation

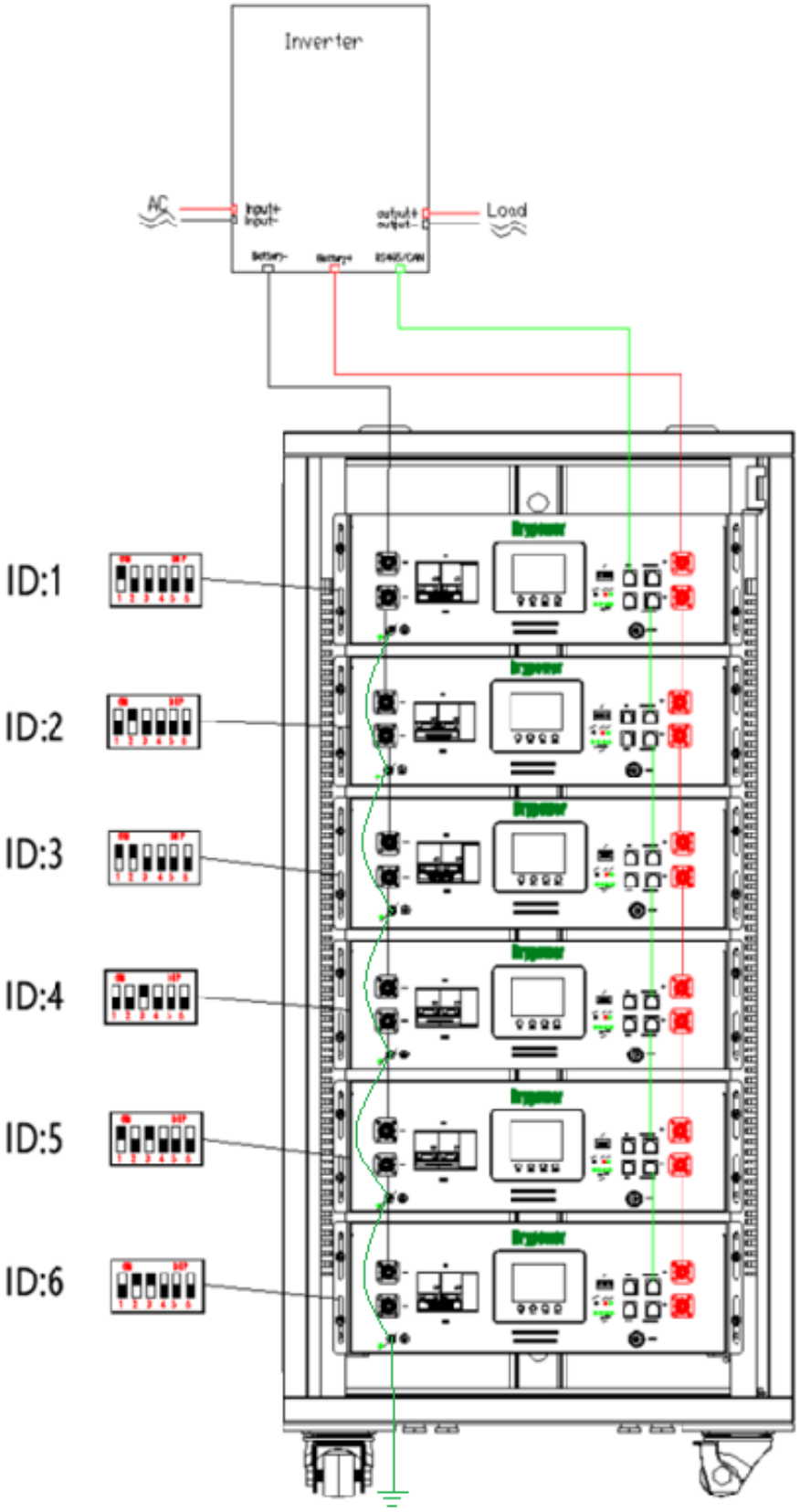
The following tools are required for electrical connection, as shown in Table 7-4:

Table 7-4 Electrical Installation Tools Diagram

Installation Tools	Electric Screwdriver 	Cross Screwdriver 	Socket Spanner 
	Slotted Screwdriver 	Wire Stripper 	Multimeter 

7.4.2 Electrical Connection

Figure 7-5 System Electrical Connection Diagram



(1) DC Isolator: Check that a DC isolator capable of simultaneously disconnecting both positive and negative poles is installed. Always use this switch to isolate the battery, ensuring that it meets specification requirements and guarantees 100% personal safety before connecting the power cord.

(2) Grounding: Screw one end of the grounding cable to the grounding hole at the end of the chassis, and the other end to the grounding copper strip of the rack (or cabinet), ensuring a secure and solid connection.

(3) Power Cable Installation: When using a single battery, connect the battery terminals directly to the equipment or switch power terminals. When multiple batteries are utilised in parallel, first connect the batteries in parallel using power cables, then connect to the equipment or switch terminals.

4) Connect the equipment: Clearly identify the system's positive and negative terminals. Connect the red cable to the positive terminal and the black cable to the negative terminal to avoid connection errors.

(5) **Communication Cable Installation:** When multiple batteries are connected in parallel (skip this step if only a single module is used), first set the address code of each battery according to the DIP Table in Figures 5-7 and 5-8, ensuring no duplicate codes. Next, connect the Battery-Comm interfaces of the batteries to each other. Finally, connect the RS485/CAN interface of the battery with address No. 1 to the inverter using a communication cable.

If only a single battery is used, the battery with address No. 1 connects directly to the inverter, and its RS485 or CAN communication port connects to the corresponding inverter communication port.

Note: Address 1 will not communicate correctly with BMS Tools. To use BMS Tools, assign a different battery address that is unique within the system.

(6) **Inverter Outputs:** Ensure AC power is connected to the correct AC input and the battery is securely connected to the DC input.

7.5 System Starting Up

7.5.1 Start Up Checking

After installation or maintenance, the lithium battery system needs to be started up. Before starting up, please check the following precautions carefully to make sure there are no errors:

- All electrical connections must be made in accordance with the electrical diagrams in the manual:
- DC Combiner Box Must Be Open
- Cables are Properly Distributed, Without Mechanical Damage, and Connected and Fastened Correctly
- The Internal Protection Devices in the Combiner Box must be firmly installed
- No excess parts or conductive material remains.

7.5.2 Start Up

After completing the above steps, press the ON/OFF push-button switch on the control panel to turn on the battery unit. Then, switch on the miniature circuit breaker to power up the battery, completing the installation.

7.5.3 System Charge

When the battery system is transported or stored for a long period, the SOC may decrease due to self-discharge of the cells and system consumption, and the lithium battery needs to be charged after normal start-up and before use.

8 LCD Screen

Each module has a built-in LCD display.

8.1 LCD Display Introduction

An LCD display is embedded in each battery module, and is used to display important information about the cells, such as voltage, temperature, SOC, capacity, and operating status etc.

8.1.1 Button Description

There are 4 function buttons below the display with detailed descriptions as shown in the table below.

Figure 8-1 Button description

1 2 3 4

The corresponding function description for each button is shown in the table below.

Table 8-1 Button description Table

No.	Item	Description
1	Up	Page up
2	Down	Page down
3	Back	Back
4	Enter	Confirm

8.1.2 Screen Wake Up

Press any key to wake up the screen when power is on, and module information will be shown on the display.

Figure 8-2 Main Page Information

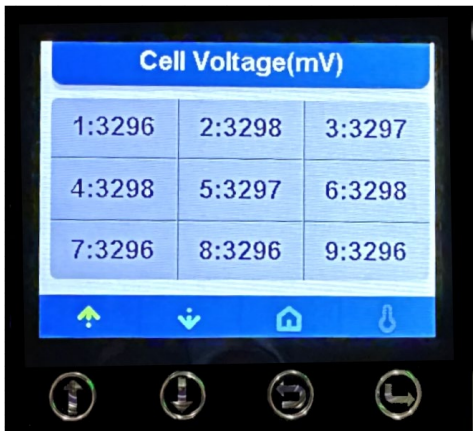
Table 8-2 Main Page Example Information

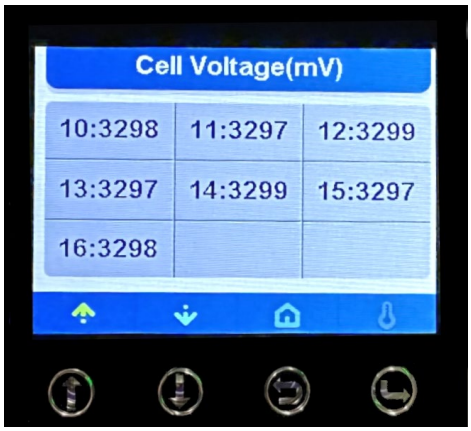
Battery ID	64	CAPACITY	200Ah
Battery status	Discharging	Battery Module Voltage	52.75V
Battery SOC	SOC: 96%	PROTOCOL	CAN: 01
System Time (not for DP-12400)	2023-07-21 12:07		RS485: 01

8.1.3 Cell Information

Press the “Enter” button, check the cell information, there are 2 pages, “Up” and “Down” to change the page. Page 1 is for cell 01~ cell 9 and Page 2 is for cell 10 ~cell 16.

Figure 8-3 Cell Information

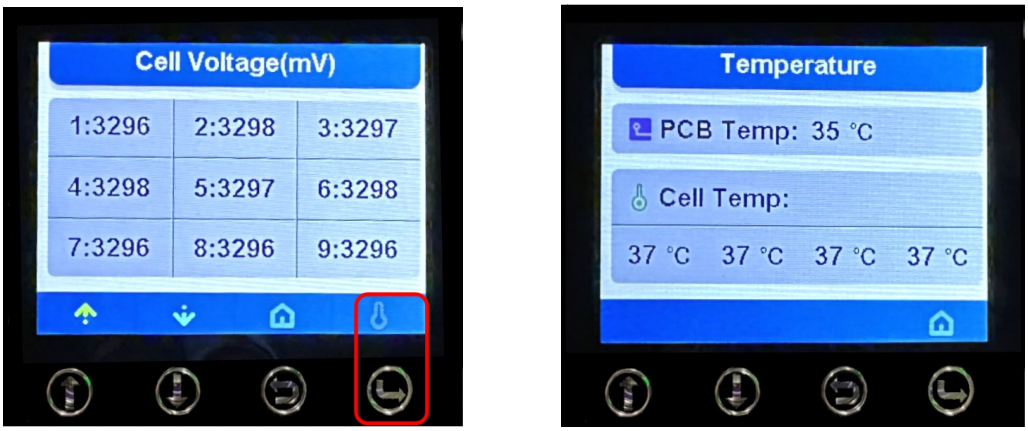




8.1.4 Temperature Information

In the above interface, click the thermometer icon on the screen and press "Enter" below to view the information under the corresponding icon.

Figure 8-4 Temperature Information



8.1.5 Working Mode Selection

To change the protocol to another, follow the steps:

1. With the battery powered off, set the battery ID to **No. 64** (51.2 V 100 Ah) or **No. 16** (25.6 V 200 Ah / 12.8 V 400 Ah) (refer to Section 5.4).
2. Power on the battery, then Press and Hold the **"Back"** button for 5 seconds to enter the protocol selection screen.
3. Scroll with **"Up or Down"** button, then Press **"Enter"** button to choose RS485 or CAN protocol settings.
4. Scroll with **"Up or Down"** button, then Press **"Enter"** button again to select the desired protocol from the list.
5. Press **"Back"** button to return to main interface, then restart the battery to apply the selected protocol.

Figure 8-5 Working Mode Selection - RS485

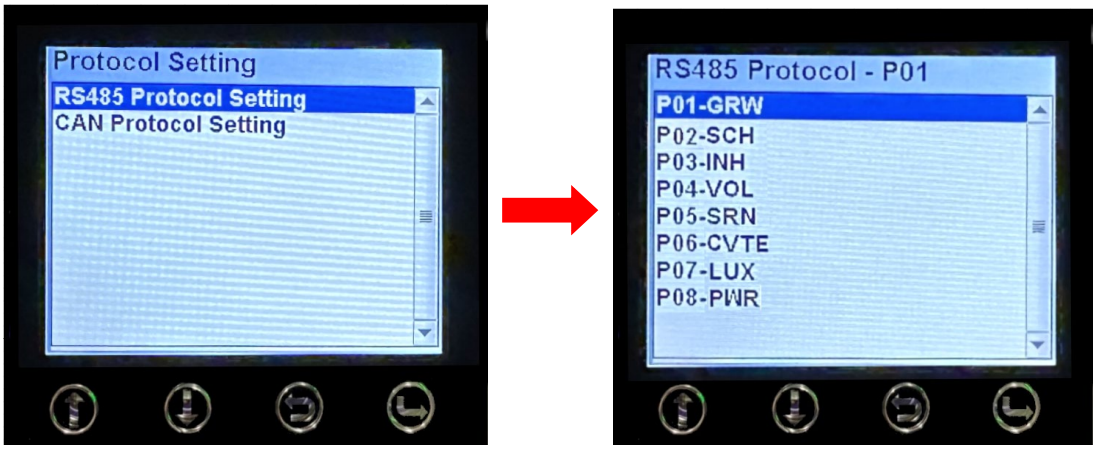


Figure 8-6 Working Mode Selection - CAN

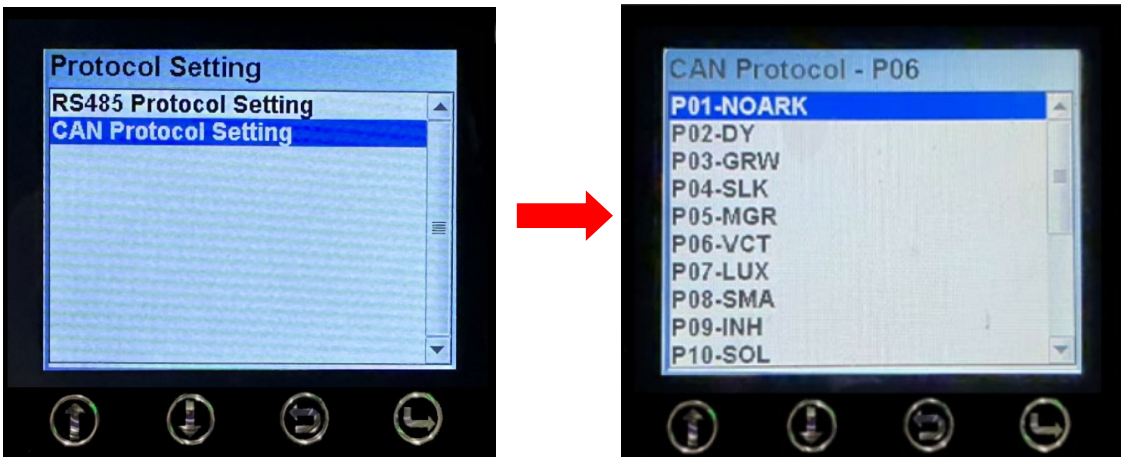


Table 8-3 Communication Protocol List

RS485		CAN	
Protocol name	Inverter's brand name	Protocol name	Inverter's brand name
P01-GRW	Growat	P01-NOARK	Noark
P02-SCH	Schneider	P02-DY	Deye
P03-INH	Inhenergy	P03-GRW	Growat
P04-VOL	Voltronic	P04-SLK	Sol-Ark
P05-SRN	SME	P05-MGR	Megarevo
P06-CVTE	CVTE	P06-VCT	Victron
P07-LUX	Luxpower	P07-LUX	Luxpower
P08-PWR	CVTE	P08-SMA	SMA
P09-DY	Deye	P09-INH	Inhenergy
P10-CROWN	Voltronic	P10-SOL	Solis
P11-AKX	Voltronic	P11-AFO	Afore
P12-CROWN2	Voltronic	P12-STU	Studer
		P13-MUST	Must
		P14-SUN	SAJ
		P15-PYL	Pylon
		P16-TRB	Turbo
		P17-HUB	Pylon

9 Maintenance

9.1 Alarm Description and Handling

When the ALM light on the battery control panel is on, it means that the battery has given an alarm or has been protected, please check the cause of the failure through the computer and take appropriate measures or go directly to the site to troubleshoot. Common alarm conditions are shown in Table 9-1 below.

Table 9-1 Major Alarms and Protection

State	Type	Indicator	Disposal
Charge	Over-Current Protection	ALM	Stop Charge, Check the Settings, and Limitations
	Temperature Protection	ALM	Stop Charge, Wait for the Temp Recovery
Discharge	Over-Current Protection	ALM	Stop Discharge, Check if there is an Over Load
	Temperature Protection	ALM	Stop Discharge, Wait for the Temp Recovery

9.2 Common Faults (Phenomenon) and Solutions

Common faults and solutions are shown in table 9-2.

Table 9-2 Common Faults (Phenomenon) and Solutions

NO.	Fault phenomenon	Analysis	Solution
1	Communication failure with Inverter	Communication port connect Error or Battery ID setting Error	Refer 5.7 and 5.8 Section
2	No DC Output	Battery circuit breaker is OFF or low voltage	Turn on battery circuit breaker or charge the battery
3	Power supply time is too short	Battery capacity insufficient or not full battery power	Maintenance or Replacement Is Required.
4	Battery cannot be charged fully	Power Supply DC Output voltage is below the minimum charge voltage	Adjust the DC Output Voltage of the Power Supply to match the battery's required charging voltage.
5	ALM LED Always On	Power line connection has a short circuit	Disconnect the power cable and check all cables
6	Battery Output voltage is unstable	Battery Management System does not operate normally	Press the Reset button to reset the system, then restart the system
7	ALM LED flash 20 times and SOC1 LED on	Voltage unbalance between cells	Examine and perform cell voltage balancing
8	ALM LED flash 20 times and SOC2 LED on	Unbalanced temperature	Replace temperature senor cable
9	ALM LED flash 20 times and SOC3/4 LED on	BMS is damaged	Replace the BMS

10	Different SOC Value of Batteries in Parallel	Normal Phenomenon	No Operation
11	Low Voltage Protection Enabled. LED Does Not Turn On.	BMS Goes into Low Voltage Protection, and Goes to Sleep Mode.	**Follow the Below Steps to Reboot the Module.** 1. Charge the Battery Immediately and it will Reboot automatically. 2. Switch the Battery Off and then On, and charge it immediately after powering On. 3. Reboot and charge it immediately. If You Follow Step 1 or Step 2 without charging immediately, then BMS will protect and go to Sleep Mode in several minutes.
12	Battery Deeply Discharged. LED Is On.	No charging in a long time after deep discharged, the voltage is too low to start the BMS.	If the battery sleeps for a long time and the voltage is too low to start the BMS, you have to open the cover of the pack and charge it up to 40V before you reboot it.

9.3 Daily Maintenance

Routine maintenance items are shown in Table 9-3 below.

Table 9-3 Routine maintenance items

Item	Maintenance Method	Maintenance intervals
Power Cables 	1. Check whether there is mechanical damage to the power cable and whether the terminal insulation sleeve has fallen off; if there is such a phenomenon, please turn off the machine and carry out maintenance or replacement. 2. Check whether the power cable is loose; if there is any sign of looseness, please use a standard torque wrench to tighten it. 3. Check the system for loose screws or discoloration of the copper bus bar; if the screws are loose, please tighten them with a standard torque wrench; if the copper bus bar is discoloured, please contact the manufacturer for after-sales replacement.	Once Every 6 Month
Communication Cables 	1. Check whether the parallel communication cable terminal is loose; if it is loose, re-tighten it. 2. Check whether the colour of the communication cable has obvious discoloration; if discoloration is present, please shut down the machine to replace the communication cable.	Once a Year
Cabinet Cleanliness	Check the cleanliness of the front door, back door, and battery module inside the cabinet; if there is obvious dust, please clean it in time.	Once Every 6-12 Month
System Running Status 	1. Check if all parameters are normal when the system is running (system voltage, current, temperature, etc.). 2. Check whether the main core components of the system are normal, including system switches, contactors, etc. 3. Check whether the system air inlet, outlet, and air ducts are normal; if there is any	Once Every 6 Month

	blockage or congestion, clean them in time.	
Charge and Discharge Maintenance	Use light load and shallow charge/discharge to check whether the SOC and SOH status of the battery are normal (using the upper computer software to read); it is recommended that the depth of discharge and charge/discharge power not exceed 20% of the rated value.	Once Every 6 Month

10 Cautions and Warranty

10.1 Cautions

 Please read and comply with the battery installation manual and usage instructions carefully. Incorrect installation or use of the battery may result in personal injury or damage to the product.

(1) **DO NOT** throw the battery into water. Store the battery in cool and dry environment.

(2) **DO NOT** put the battery into fire or heat the battery, as it may cause explosion or other hazardous incidents.

(3) During battery charging, please choose specialized charging equipment and follow correct procedures. **DO NOT** use unqualified chargers.

(4) **DO NOT** reverse positive and negative terminals. **DO NOT** connect the battery directly to AC power. Avoid battery short circuits.

(5) **DO NOT** use batteries from different manufacturers or different types together, and **DO NOT** mix old and new batteries.

(6**) DO NOT** use the battery when it is hot, bulging, deformed or leaking.

(7**) DO NOT** puncture the battery with nails or other sharp objects. **DO NOT** throw, stamp on, impact or hit the battery.

(8) **DO NOT** open or try to repair the battery when it is defective. Warranty becomes invalid if the battery is repaired or disassembled.

(9) Batteries are half charged before shipment. **DO NOT** use the battery if it feels hot, bulges, emits an abnormal smell, or exhibits any other abnormalities. Report it to the after-sale department immediately.

(10) If a long-time storage is needed, please charge and discharge the battery every three months to ensure the optimal performance. The recommended state of charge for storage is between 50% and 60%.

(11) Please use the battery within the temperature range specified in the manual.

(12) The state of charge of batteries is 50% before shipment. Please charge the battery before using

10.2 Description of Warranty

Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.